

# Chandra Exclusive Data Use Policies

# NASA Mission Exclusive Data Periods

NASA Astrophysics Mission	Launch	GO Authority	Exclusive use period	
Hubble Space Telescope	1990	STScI	6 months	
Chandra X-ray Observatory	1999	CXC	12 months	
Gehrels Swift Explorer	2004	SMD/APD	none	Explorer
Fermi Gamma-ray Space Telescope	2008	SMD/APD	none	Survey
Nuclear Spectroscopic Telescope Array (NuSTAR)	2012	SMD/APD	12 months	
Stratospheric Observatory for Infrared Astronomy (SOFIA)	2014	SMO	6 months *	
Neutron Star Interior Composition Explorer (NICER)	2017	SMD/APD	none	Explorer
Transiting Exoplanet Survey Satellite (TESS)	2018	SMD/APD	none	Explorer
James Webb Space Telescope	2021	STScI	12 months	
Imaging X-ray Polarimetry Explorer (IXPE)	2021	SMD/APD	none	Explorer
Galactic/Extragalactic ULDB Spectroscopic Terahertz Observatory (GUSTO)	2021	SMD/APD	none	Explorer
Spectro-Photometer for the History of the Universe, Epoch of Reionization, and Ices Explorer (SPHEREx)	2023	SMD/APD	none	Explorer
Nancy Grace Roman Space Telescope	2026	IPAC/STScI	none	

Question from NASA HQ:

“If 6 months is good for Hubble, why is 12 months needed for Chandra?”

# Chandra: Current Exclusive-Use Periods

- General Observer (GO) —  
Guaranteed Time Observer (GTO) —  
Large Projects (LP) — 1 Year
- Very Large Projects (VLP) —  
Extremely Large Projects (XVP) — No exclusive-use period
  - Caveat: VLPs were inadvertently given exclusive use periods when reintroduced in Cycle 19. Plan to revert to earlier policy in Cycle 23.
- Director's Discretionary Time (DDT) — 0-3 month exclusive-use period (upon request/approval)

# Previous Policy Discussions

- 2006: Discussed for potential ELP program (which was not ultimately developed)
  - CUC: "The CUC feels that ELP data should become immediately public by default, but that the proposing team be allowed to make the scientific case for a proprietary period up to a certain maximum number of months.  
"The CUC also recommends that the proprietary time policy for VLP be changed to bring it into accord with the chosen policy for ELPs."
- 2007: Reviewed LP/VLP policy
  - CUC: "At the present time, we do not recommend changing the policy regarding proprietary time for LPs... but that data from VLPs be awarded with no proprietary time. We do, however, recommend that CXC continues to review this policy over the coming cycles with an eye to a possible policy change in the future."
- 2016: Senior Review
  - 4. *Publications and Proprietary Period*: "The median time from observation to publication of approximately 2.4 years suggests that the nominal GO grant duration of 1-2 years and the proprietary period of 1 year are still appropriate at this point in the mission."
- o 2019 CUC Discussion

Minutes: In some cases there are significant differences in proprietary times between the major observatories (in particular HST and Chandra, but also the VLA and ESO) for (typically transient) objects of great community interest, such as GW170817, so as to enable rapid, multi-wavelength follow-ups. We recommend that the Chandra Director approach the other observatories to see if a common set of rules could be adopted.

# Arguments for Current Exclusive Use Period

- Provides sufficient time to start on full program that was proposed.
  - No rush to publish partially complete results.
- Periods of less than 12 months can present a disadvantage to students.
  - Projects laid out by advisors are in competition with the world. Potentially disruptive and demoralizing.
- Shorter periods impact young faculty and faculty at teaching colleges.
  - Often summer months are key time to carry out research. Opportunity may be lost by the time this comes around if data are immediately made public.
- Many Chandra papers include application of multiwavelength observations and theory. One year is really the minimum to do that right in most cases.
- Consistent with all observatories with which Chandra has Joint programs, other than HST (6 mo. since Cycle 25) and Swift (Explorer-class)
  - NOAO, NRAO/AUI, and ESA all have 12 mo. (or longer) exclusive-use periods.
  - Previous Japan/US X-ray missions have all had 12 mo. periods as well.
  - Observers don't have to worry about Chandra exclusive-use period expiring before other data.

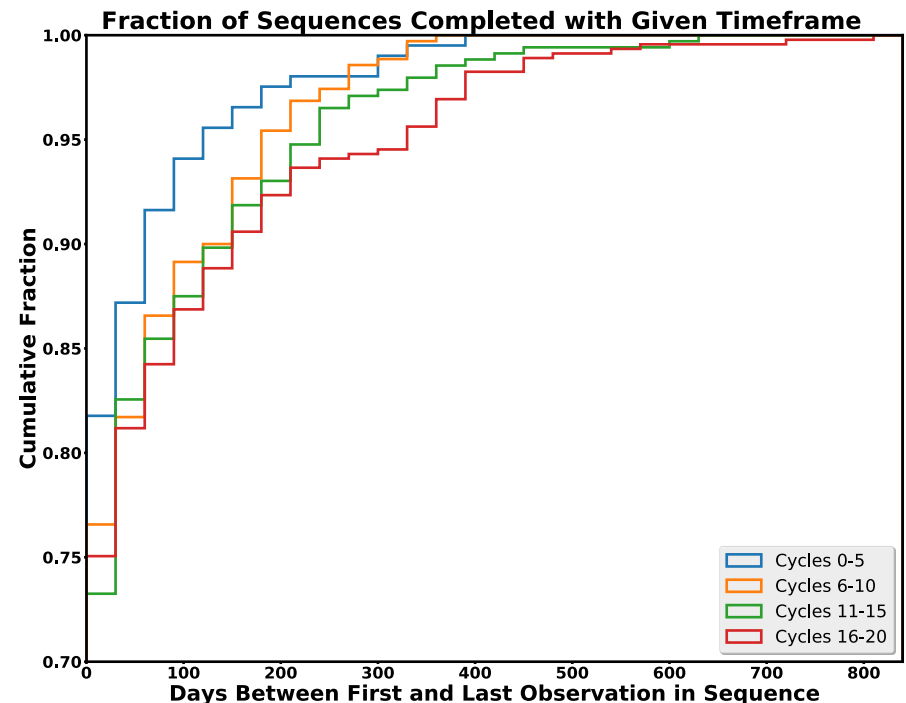
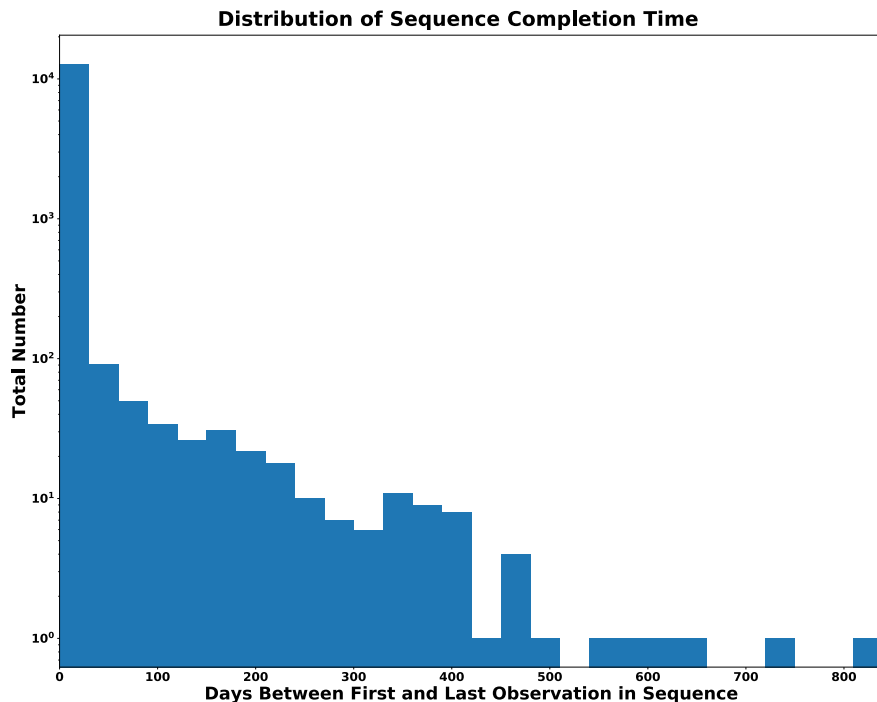
# Arguments for Reduced Exclusive Use Period

- Offers a more “open” approach to astronomical data.
  - Improve “accessibility” to Chandra data.
  - Potential advantage to researchers who haven’t had successful proposals. This could be young researchers and those at small schools.
- Improve ability to respond to most recent science results with new observations.
  - Currently, observations may not become public for more than 2 ½ years after proposals are written.
- HST has reduced its exclusive use period for GO observations from 12 months to 6 months.
  - This was done 25 years into the mission, prior to anticipated JWST launch.
- High profile observations should be available to entire community.
  - GW-EM Workshop Presentation: "For both HST and Chandra, a community follow-up program, with a pre-defined observing sequence, a well-defined trigger criteria focused on the most rare and critical events (bright, nearby, ...), and zero proprietary period, triggered by the mission, may help reduce latency and achieve the prompt response science goals described above."

# Considerations

## Observation Splits

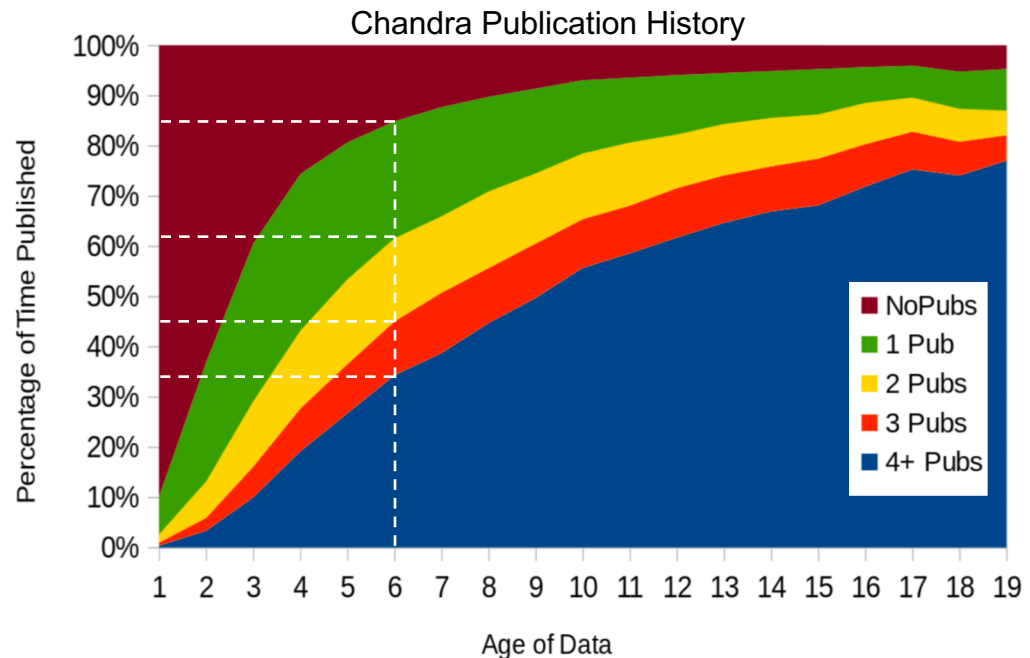
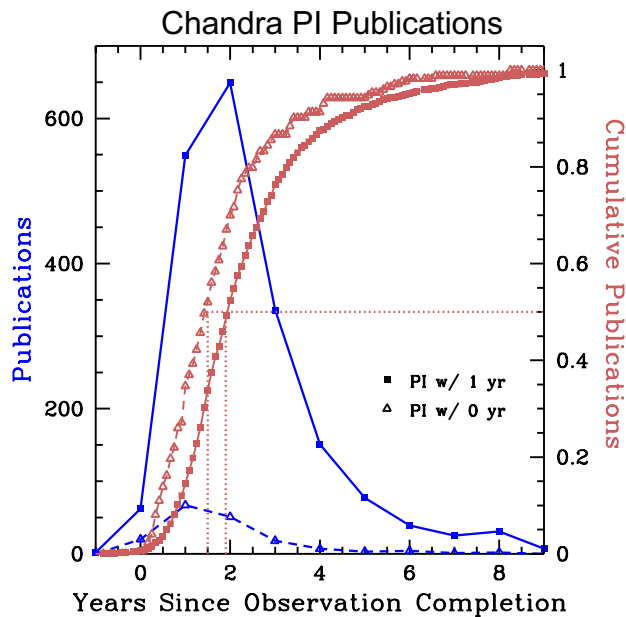
- Many Chandra observations are split into multiple observing segments, and there can be significant delays between completion of these segments.
  - With no exclusive-use period, there is a temptation to “scoop” a program by publishing results on incomplete data sets.



# Considerations

## Publications

- Publication data show that peak of delay between program completion and publication of paper is ~2 yrs.
  - Distribution for programs without exclusive-use periods also has longer tail.
  - HST data show the same trends. Moreover, they show that this holds for both observations with exclusive-use periods and those with none.
    - Publications do not appear significantly earlier by removing exclusive-use periods.
- Data in archive used extensively in publications.
  - This doesn't seem to show any advantage to reducing the exclusive use period.





# Considerations

## Chandra Archive and Source Catalog

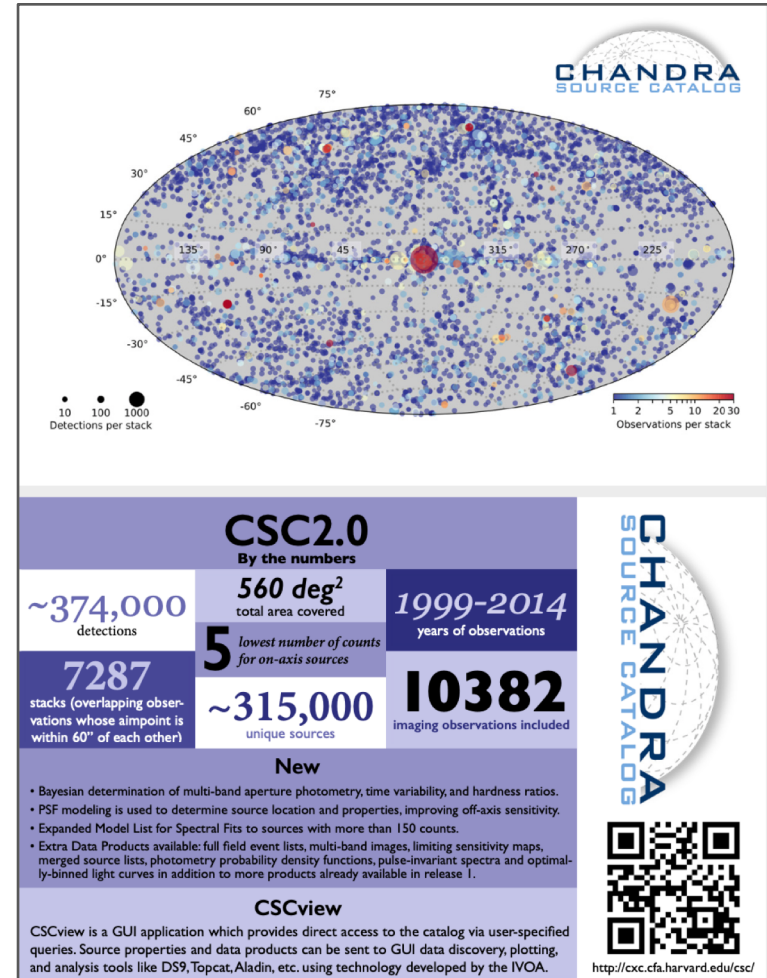
- The Chandra archive and source catalog provide an extremely rich reservoir of publically-available Chandra data and products.

### WELCOME TO THE CHANDRA DATA ARCHIVE

The Chandra Data Archive (CDA) plays a central role in the operation of the Chandra X-ray Center (CXC) by providing support to the astronomical community in accessing Chandra data. The CDA offers access to digital archives through powerful query engines, including VO-compliant interfaces and also serves as a permanent storage repository of contributed data products by authors who have processed images or other pertinent and valuable datasets that are essential to their publications.

#### Access the Chandra Data Archive

- [ChaSeR](#): Search & Retrieval interface for scientists, allowing specification of detailed selection criteria. [Chandra Fast Image](#) is a simplified quick search tool for *Chandra* X-ray images and other data for the general public.
- [HTTPS](#): Direct access to the primary and secondary data products for all observations that are publicly released.
- [Cool Chandra Targets](#) (formerly known as CATs): the list of approved Cool Chandra Targets (CCTs) programs, including the PI names, titles and abstracts.
- [Footprint Service](#): A search by position or object name overlays the footprints of *Chandra* Observations on Digital Sky Survey images, allowing further selection and retrieval of observations.
- [Chandra MOCs](#): Multi-Order Coverage maps (MOCs) for public Chandra observations, that can be used to visualize and analyze the global Chandra footprint.
- [Chandra Source Catalog](#): The most comprehensive catalog of sources detected in public Chandra Observations. The catalog can be accessed through [CSCview](#).
- [CIAO Tools](#): There are command-line scripts for finding and downloading publicly-available Chandra data from the Archive. Please note that proprietary data can only be accessed using [ChaSeR](#).
  - [find\\_chandra\\_obsid](#): The tool will find publicly available Chandra data that covers a circular region of sky (a point search can be used by setting the search radius to 0).
  - [download\\_chandra\\_obsid](#): The tool will download public data by ObsId from the Chandra archive.
- [SDSS Cross-Match Catalog](#): A cross-matching service linking *Chandra* and *SDSS* sources.
- [Bibliography Search](#): Simultaneous browsing of the archive and the literature with a large repertoire of selection criteria.
- [Processing Status](#): Information on the processing status of *Chandra* observations.
- [Special Requests](#): Requests for services not available through standard interfaces such as requesting a custom dataset identifier; requesting a custom database query; and many others.



# Questions

- Does the CUC recommend changes in the exclusive-use periods for Chandra data?
  - If so, *what are your recommendations?*
  - If not, *should this be revisited in the future?*
- Other comments on this topic?